

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows, deleting the noted paragraphs and replacing with the below paragraphs.

SYSTEM AND METHOD FOR PRINTING AN APPLICATION OF DYNAMICALLY VALUED INDICIA STAMPS

[0002] The present invention relates generally to applying postage indicia stamps to mail pieces and, more particularly, to printing indicia stamps each having unique postage value to be applied to mail pieces by a bulk mail processing system.

[0009] A system embodying the present invention applies postage indicia to mail pieces using a controller for monitoring the mail pieces as they are processed by the system. The controller has information about each of the mail pieces, such as the weight, destination, postal class, or contents of each mail piece. The system also comprises a postage evidencing system for printing postage indicia on labels to create postage indicia that are applied to the mail pieces. Each of these postage indicia stamps is associated with a particular mail piece and has a postage amount that is calculated using the unique information for the particular mail piece. An applicator applies the labels to the mail pieces.

[0011] The invention is also directed to a method for printing postage indicia on labels. The method comprises receiving information associated with mail pieces that require postage, wherein the information can be used to determine a required postage amount, and printing indicia corresponding to the required postage amount on blank labels to create postage indicia stamps, wherein at least two of the postage indicia stamps are not identical. The method may further comprise calculating the required postage amount from the information associated with the mail pieces. The received information associated with the mail pieces may include a required postage amount.

[0012] In addition to printing the required postage indicia, in embodiments of the invention, an image is printed on the blank labels in addition to the postage indicia to create postage indicia stamps. In a bulk mail processing system, each of the postage indicia stamps are associated with a particular mail piece that is designated for a particular recipient. The image may be selected based upon one or more characteristics of the particular recipient, such as the recipient's age, sex, occupation, or location. A single image may be printed on a plurality of labels that each have varying postage indicia. Alternatively, indicia representing a single postage amount may be printed on a plurality of labels that each have varying images printed thereon.

[0013] A system and method for creating postage indicia stamps for use on mail pieces comprises calculating a postage amount due for each of the mail pieces, printing postage indicia corresponding to the postage amount on blank labels to create postage indicia stamps for use on the mail pieces, wherein each of the postage indicia stamps is associated with a particular one of the mail pieces, and wherein at least two of the postage indicia stamps are not identical, and applying the postage indicia stamps to the associated mail pieces.

[0014] The present invention monitors the quality of the postage indicia stamps to ensure that the proper postage indicia was evidenced, and monitors the quality of the mail pieces to ensure that the postage indicia stamps or printed labels have been properly applied.

[0015] The present invention also monitors the progress of mail pieces in a high-speed letter processing system, creates postage indicia having postage indicia stamps associated with each of the mail pieces before the mail pieces arrive at a postage indiciu stamp applicator, and ensures that the correct labels having the required postage indicia are applied to each envelope.

[0023] FIGURE 3 is a flowchart illustrating a process for printing labels for use as postage indicia stamps on mail pieces according to embodiments of the present invention.

[0026] Returning to FIGURE 1, the roll or ribbon of labels 13 passes through postage evidencing system 12, where postage indicia is applied to the labels. Print head 12-2, which may

be, for example, a high-speed ink jet printer, applies postage indicia to labels 13. As discussed above, controller 14 calculates the required postage amount for each mail piece and creates postage indicia information for that postage amount. The postage indicia information is communicated to postage evidencing system 12 and the postage indicia is printed on labels 13 by print head 12-2. Quality monitor 12-1 checks the printed labels as they are produced by postage evidencing system 12 and before they are applied to envelopes 100. Labels that fail the quality check at monitor 12-1, such as labels with misprinted postage indicia, are identified to controller 14 so that the incorrect indicia stamps are not used on mail pieces.

[0028] Applicator 15 typically applies one label per envelope. However, in alternate embodiments, applicator 15 can apply any number of labels 13 to a single envelope. Each of the labels applied to a single mail piece may have the same or unique postage values. A sender may desire to apply postage to mail pieces using indicia stamps that have postage increments that are available from the Postal Service in order to give the appearance that the mail piece was prepared by hand. For example, the current first class postage is 37 cents. If the postage due for a mail piece is more than 37 cents, the sender may direct the postage evidencing device to print multiple indicia stamps having values of no more than 37 cents each. In this manner, a mail piece requiring postage of 57 cents could be labeled with a single 57 cent indiciu stamp or with two indicia stamps, one having 37 cents postage and the other having 20 cents postage. Any other combination of postage could also be used to give the mail piece a more personalized appearance. Although the postage indicia itself may be machine-readable, additional human-readable postage information is printed on the labels in a preferred embodiment.

[0029] In other embodiments, the manner in which labels 13 are printed may be personalized for the recipient. Exemplary indicia stamps 13-1 and 13-2 in FIGURE 1B represent different postage amounts and have different postage indicia, but generally the same format and image. Postage evidencing device 12 can also vary the image shown on the labels. These images are separate from the postage indicia and do not represent a postage amount. In this manner, the indicia stamps applied to the mail pieces may be further personalized to reflect a

selected theme, location, historical event or figure, holiday or other feature associated with the recipient. These features or images may be selected based upon the recipient's location, age, sex, occupation or other information. For example, in addition to printing the appropriate postage on labels 13, postage evidencing meter 12 may print a medical-related image if the recipient is a doctor or a school-related image if the recipient is a teacher.

[0034] FIGURE 3 is a flowchart illustrating process 30 for printing labels for use as postage indicia stamps on mail pieces according to embodiments of the present invention. Work orders are accepted at 301, which may include information such as recipient addresses, mail piece content for each recipient, postage class for each mail piece, and/or the like. While the mail pieces are being processed, the weight of individual pieces is determined at 302 and the destination for the mail piece is determined in 303.

[0037] In an alternate embodiment, the system and method disclosed herein operates with serialized stock. The blank roll or sheet of indicia stamps to be printed may be numbered or serialized. The individual indicia stamps on a roll (e.g. 13-1, 13-2 of FIGURE 1A) or on a sheet (e.g. 21-1, 21-2 of FIGURE 2A) may each have unique numbers. Alternatively, each indiciu stamp on a single roll or sheet may have the same number. The serialized blank stock (i.e. rolls or sheets to be printed) provide security and anti-fraud features. For example, the serial number on the stock may be printed in a bar code or in another machine-readable format. The mail processing system may read the serial number or a user may enter the serial number manually into the system. The mail processing system could then determine whether the serial number is valid, such as by comparing the number to a list of valid serial numbers. If the serial number is not valid, then the system would not print postage indicia on the stock. The system may also maintain a list of serial numbers for used (i.e. printed) stock to ensure that the user does not reuse a valid serial number on other, unapproved stock.

[0042] An exemplary system utilizes special paper label stock to protect against the fraudulent production of computer-based postage indicia stamps. The paper label stock may be available through the computer-based postage service provider, through retail outlets or other

sources. In one embodiment of label stock in accordance with the present invention, multiple labels are placed on a single large sheet of label stock. The multiple labels may be arranged in any fashion. In one embodiment of a label sheet in accordance with the present invention, the labels are arranged in a rectilinear grid pattern. In another embodiment of label stock in accordance with the present invention, multiple labels are arranged in a linear fashion placed on a roll of label stock.

[0043] In accordance with an exemplary embodiment of the present invention a serial number uniquely identifies a label used to generate a postage indiciu stamp. Such a label may be termed a Postagio label. The master serial number is a manufacturer serial number that is used to track the production, distribution, and use of a particular unit of label stock. An exemplary system preferably prints computer-based postage indicia stamps having a pre-printed serial number that matches a serial number on a Postagio label. As an added security measure, the pre-printed serial number on the Postagio label will be based on the master serial number for label stock. In one embodiment of a pre-printed serial number in accordance with the present invention, the master serial number is included as the leading 3 digits in a pre-printed serial number. This allows a customer to reuse a partial sheet of label stock, reducing waste while maintaining the secure nature of the paper.

[0045] In the described exemplary embodiment, master serial numbers and pre-printed serial numbers are tracked on a server. When a unit of label stock has been used, the server flags the meter number that used label stock. If the user prints computer-based postage indicia stamps on a portion of label stock, the user will be able to print indicia on the remaining labels included in the label stock at a later time. However, only the meter that initially used the label stock will be permitted to print the remaining labels. Once all labels included in the label stock have been printed, the associated master serial number and pre-printed serial numbers will be flagged and any attempts to print a label using those serial numbers will be rejected by the server. A preferred embodiment will not activate all possible serial numbers. Rather, only label stock and

labels having serial numbers that have been produced by a manufacturer and placed into distribution will be active and available for use.

[0046] A user may print postage indicia onto the label stock. An exemplary computer-based postage indiciu stamp is preferably different from indicia currently in use for IBIP to allow postal personnel and customers to instantly recognize and distinguish the computer-based postage indicia stamps. However, the computer-based postage indiciu stamp preferably guards against fraud. Therefore, postage indicia printed on the Postagio labels preferably utilize a data matrix barcode format.

[0047] An exemplary computer-based postage indiciu stamp includes multiple pieces of information, some pre-printed and some printed at the time of indicia creation, to ensure the uniqueness of the indiciu stamp and ease of processing. For example, an exemplary postage indicia includes the postage amount displayed in human-readable form in the upper left-hand corner of the indicia. The postage amount is preferably displayed using the largest font size permitted given the size of the label and the indicium. The large font size helps ensure that postal personnel can quickly identify the indiciu stamp value. In addition, an exemplary system prints "U.S. Postage" under the postage amount, preferably, in a slightly smaller font than the postage amount. The term US Postage helps ensure that the indiciu stamp is identified as being domestic in origin. Further, the indicia preferably identifies the mail class served by the indiciu stamp and may include relevant information regarding the indicia stamps origination such as, for example, the Licensing Post Office.

[0048] A computer-based postage indiciu stamp may further include a pre-printed serial number. The pre-printed serial number is a unique number printed on the bottom left-hand corner of the label to identify the sheet source and the individual label number. An exemplary system further encodes the pre-printed serial number in the indicium to ensure that the indiciu stamp is unique. In addition, a serial number will also be printed at the time the Postagio is created. This will be printed directly above the pre-printed serial number as an added fraud deterrent. If the serial numbers do not match each other and the serial number in the indicium,

then the computer-based postage is not valid. The computer-based postage indiciu ~~stamp~~ may further include the logo of the computer-based postage provider. The logo may be pre-printed on the label. In one embodiment the label stock preferably features the provider logo as a means to guarantee that the label stock meets the necessary security requirements.

[0049] In an exemplary embodiment, the labels may also include various anti-fraud features to guard against the fraudulent production of computer-based postage indicia ~~stamps~~. For example, the label stock preferably uses phosphorescent ink. This type of ink is considered a specialized material that is not readily available to the general public, ensuring the security of the label stock. Therefore, in one embodiment each Postagio label is coated with a phosphorescent ink. The phosphorescence will also assist the automated postal handling equipment in identifying the indiciu ~~stamp~~. In addition, the computer-based postage indicia ~~stamps~~ will preferably be cut with a special die to further ensure the security of the Postagio labels. In one embodiment of a special die in accordance with the present invention, the cutting edges of the die do not follow a straight line. Instead the cutting edges are composed of a sequence of specially angled lines.

ABSTRACT

A system and method for applying postage indicia ~~stamps~~ to mail pieces using a controller for monitoring the mail pieces as they are processed by the system. The controller has information about each of the mail pieces. A postage evidencing system prints postage indicia on labels to create postage indicia ~~stamps~~ to be applied to the mail pieces, wherein each of the postage indicia ~~stamps~~ is associated with a particular mail piece and corresponds to a postage amount that is calculated using the information for the particular mail piece. An applicator applies the postage indicia ~~stamps~~ to mail pieces.